

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

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RICHARD A. WILLIAMSON, on behalf of  
and as trustee for At Home Bondholders'  
Liquidating Trust,

Plaintiff,

No. 11 Civ. 4948 (LTS)(HBP)

-v-

VERIZON COMMUNICATIONS INC., et al.,

Defendants.

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RICHARD A. WILLIAMSON, on behalf of  
and as trustee for At Home Bondholders'  
Liquidating Trust,

Plaintiff,

No. 13 Civ. 0645 (LTS)(HBP)

-v-

AT&T OPERATIONS, INC., et al.,

Defendants.

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MEMORANDUM ORDER

Plaintiff Richard A. Williamson ("Plaintiff" or "Williamson") brings this patent infringement action against Verizon Communications, Inc., Verizon Services Corp., Verizon Corporate Resources Group LLC, Verizon Data Services LLC, Verizon New York Inc. (collectively, the "Verizon Defendants"), AT&T Operations, Inc., and AT&T Services, Inc. (collectively, the AT&T Defendants) (together with the Verizon Defendants, "Defendants")<sup>1</sup>. On December 10, 2012, the Court held a Markman hearing regarding the construction of certain

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<sup>1</sup> On January 22, 2013, the Court granted the AT&T Defendants' severance motion, and a new case, 13 civ. 0645, was opened as to the AT&T Defendants. This Memorandum Order applies to, and will be filed in, both cases.

terms in the claims of the ‘571 Patent, the ‘275 Patent, the ‘856 Patent, and the ‘749 Patent (collectively, the “Patents-in-Suit”). The Court has considered thoroughly all of the parties’ written submissions and their arguments at the hearing. For the following reasons, the Court construes the disputed claim terms as set forth below.

### BACKGROUND

The technology described by the Patents-in-Suit generally relates to the delivery of online multimedia services via a system and method that combine a scalable, hierarchical, distributed network architecture and processes for replicating and caching frequently-accessed multimedia content within the network, and multicasting content customized per region or locality. (See, e.g., ‘57 Patent at 2: 17-25.)<sup>2</sup> In their joint claim construction statement, the parties identified the following seven claim terms or phrases as in dispute: 1) provid[ing/e] a first level of caching [of the/for/of/of general] content; 2) provid[ing/e] a second level of caching [of the/for/for the general] content; 3) multicast[ing]; 4) destination address; 5) content is replicated amongst the regional servers; 6) group of [the] end[-]user systems; and 7) content. The parties’ familiarity with the record is presumed.

### DISCUSSION

Claim construction is an issue of law to be determined by the court. Markman v. Westview Instruments, Inc., 517 U.S. 370, 385 (1996). In interpreting the meaning of claim terms, “words of a claim are generally given their ordinary and customary meaning” as understood by “a person of ordinary skill in the art at the time of invention, i.e., as of the

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<sup>2</sup> The disclosures in the four Patents-in-Suit are substantially identical.

effective filing date of the patent application.” Phillips v. AWH Corp., 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc) (citations and internal quotation marks omitted). The court reads a claim term “not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” Id. at 1313.

When interpreting claim terms, courts must give priority to intrinsic evidence -- i.e., the words of the claim themselves, the written description in the patent’s specification, and the history of the patent application’s prosecution before the U.S. Patent and Trademark Office (the “PTO”). Id. at 1314–17. The patent specification “acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication . . . [I]t is the single best guide to the meaning of a disputed term.” Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). The specification’s written description of the invention is relevant to construction of claims, as it is a “statutory requirement that the specification describe the claimed invention in ‘full, clear, concise, and exact terms.’” Phillips, 416 F.3d at 1316 (quoting 35 U.S.C. § 112). Therefore, claim terms must be interpreted in a manner consistent with the specification of which they are a part. Phillips, 415 F.3d at 1316 (citation omitted).

However, preferred embodiments and written descriptions in the specification should not be used to limit the scope of claims. See Phillips, 416 F.3d at 1320 (“reading a limitation from the written description into the claims” is “one of the cardinal sins of patent law”) (quoting SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1340 (Fed. Cir. 2001)). “[I]t is important to keep in mind that the purposes of the specification are to teach and enable those of skill in the art to make and use the invention,” and not to define the limits of a claim term. Id. at 1323.

The court may also use the prosecution history of a patent as an aid to the

construction of claim terms. The prosecution history “can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” Phillips, 416 F.3d at 1317 (citations omitted). However, “because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” Id.

Finally, courts may resort to “extrinsic” evidence such as dictionaries, treatises, and expert testimony, which may serve as a source of “accepted meanings of terms used in various fields of science and technology” or provide “background on the technology at issue.” Id. at 1317–18. However, such extrinsic evidence is “less significant than the intrinsic record in determining the legally operative meaning of claim language,” and must be considered in the context of the intrinsic evidence. Id. at 1317–19 (citations and quotation marks omitted). Accordingly, where analysis of the intrinsic evidence alone resolves the ambiguity in a disputed claim term, it is improper to rely on extrinsic evidence to construe the meaning of the term. Vitronics, 90 F.3d at 1583.

The parties’ arguments are summarized, and the Court’s constructions of the disputed claim terms are set forth, below.

A. “Provid[ing/e] a first level of caching [of the/for/of/of general] content”<sup>3</sup>

Plaintiff’s proposed construction of this claim term is “providing a first storage

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<sup>3</sup> Both this and the following term appear in the following claims: claims 1 and 11 of the ‘571 Patent, claims 1 and 5 of the ‘275 Patent, claims 1, 7 and 13 of the ‘856 Patent, and claims 1, 7 and 13 of the ‘749 Patent.

location for content located between the second storage location and the end-user system.”

Defendants’ proposed construction of the claim term is “providing a storage location for content associated with a sub-region or local area and handling requests for content not stored in that location.” The parties’ proposed constructions reflect their disagreement as to the fundamental issue of whether caching encompasses more than mere storage.

Plaintiff argues that a cache is merely a storage location for information.

Defendants argue persuasively, however, that a cache is not simply a passive storage location for files. Rather, a cache server must be capable of responding to requests for the files that it stores. In particular, a cache server must be capable of handling a “cache miss,” which occurs when a requested file is not stored in the cache server’s memory. In the case of a cache miss, the cache server must retrieve the requested file from the nearest regional server (or, if the file is not stored at the regional server, from the remote source), store the file, and fulfill the request. Once the cache server stores the requested file, it can more efficiently fulfill subsequent requests for the same file.

The intrinsic evidence supports Defendants’ understanding of caching. For example, the patent specification explains that a caching server must be able to handle a cache miss. (See, e.g., ‘571 Patent at Fig. 11; *id.* at 11:46-48 (“Otherwise, the caching server forwards the request to the regional server 302 at the ‘nearest’ . . . regional data center”).) Additionally, Figure 6 of the ‘571 Patent refers to “cache storage”; if the Court accepted Plaintiff’s construction that “storage” and “cache” are synonymous, the patent’s use of the phrase “cache storage” would be redundant. Defendants’ construction of the caching claim term is further

supported by the testimony of Dr. Kevin Jeffay<sup>4</sup>, who asserts credibly that “a person of ordinary skill in the art as of the alleged dates of invention would understand that the patents-in-suit disclose the traditional form of hierarchical caching wherein in response to a request by an end-user system, a first-level cache pulls (requests and receives) content from a second-level cache on a cache-miss.” (Jeffay Decl. ¶ 80, Exhibit C to the Declaration of Jennifer C. Tempesta, ECF No. 131.) Accordingly, the Court adopts Defendants’ construction of the claim term.

B. “A second level of caching [of the/for/for the general] content”

Plaintiff’s proposed construction of this claim term is “providing a second storage location for content located between the high-speed backbone and the first storage location.” Defendants’ proposed construction is “providing a storage location for content associated with the regional server and handling requests for content not stored in that location.” For substantially the reasons explained above, the Court adopts Defendants’ construction of the claim term. (See, e.g., ‘571 Patent at 11: 61-64 (“if the content is not stored in the disk array [of the regional server], then the regional server determines whether the backbone or a RDC has a direct connection via a router to the remote LAN source”).)

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<sup>4</sup> Dr. Kevin Jeffay, Defendants’ retained expert, is a tenured professor in the Department of Computer Science at the University of North Carolina at Chapel Hill. Dr. Jeffay has a Ph.D in computer science, an M.Sc. degree in computer science, and a B.S. degree in mathematics; has been involved in the research and development of networked computing systems for over 30 years; and has authored or co-authored over 100 articles in peer-reviewed journals, conference proceedings, texts, and monographs in the area of computer science. (See Jeffay Decl. ¶¶ 1-14, Exhibit C to the Declaration of Jennifer C. Tempesta, ECF No. 131.)

C. “Multicast[ing]”<sup>5</sup>

Plaintiff’s proposed construction of the claim term “multicast[ing] is “the delivery of information from a single source to multiple destinations.” Defendants’ proposed construction of the claim term is “the simultaneous transmission of content from a single source to multiple destinations that requested the data, where only a single copy of the particular content passes over any network link.”

The primary dispute as to this term concerns whether and how to distinguish multicasting from broadcasting. The parties agree that broadcasting is the transmission of data from one sender to all possible recipients, while multicasting is a transmission from one sender to a particular group of recipients. Defendants further argue, however, that the group of end-users that ultimately receives the multicast content must engage in an explicit affirmative action, by subscribing to or requesting the content. Plaintiff contends that Defendants’ construction is improperly narrowed by its incorporation of a requirement that the end user have requested the data.

The Patents-in-Suit support Defendants’ construction -- the referenced multicasts are only received by end-user systems that have requested the content. (See, e.g., ‘571 Patent 8:46-48 (“The regional web server 524 may also multicast select multimedia content, such as audio or video from live events, to select groups of the end-user systems”); *id.* at 13:3-8 (“End-user systems in different regions or localities may ‘tune into’ the same IP multicast address and obtain data which is customized to a particular region or locality”).) Dr. Jeffay has also testified credibly that “a person of ordinary skill in the art as of the alleged dates of invention would

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<sup>5</sup> This term appears in claims 1, 10, 11 and 13 of the ‘571 Patent; claims 1 and 5 of the ‘275 Patent; claims 1, 4, 7, 10, 13 and 16 of the ‘856 Patent; and claims 1, 4, 10, 13, and 16 of the ‘749 Patent.

understand the phrase ‘multicast[ing]’ to mean ‘transmitting a single copy of data from a source to multiple destinations that requested the data.’ (Jeffay Decl. ¶ 106.) In their submissions and at the Markman hearing, the parties suggested various terms -- notably, “tune in,” “subscribe” and “request” -- to describe the action an end-user performs to join a multicast group. The Court finds that describing the action as a “request” is appropriate and least likely to cause juror confusion. Accordingly, the Court adopts Defendants’ construction of the claim term.

#### D. “Destination Address”<sup>6</sup>

Plaintiff’s proposed construction of the claim term “destination address” is “an identifier for an intended recipient to which data are to be delivered.” Defendants’ proposed construction is “address identifying network location through which multicast content is delivered to requesting end-users.” The parties agree that a destination address is not a location, but rather is an identifier that is used by routers to guide information to the destinations that are part of the multicast group. While the parties’ proposed constructions are not dramatically different, the Court finds that Defendants’ proposed construction is both clearer and better supported by the intrinsic and extrinsic evidence. For example, claims 1 and 5 of the ‘275 Patent use the term “destination address” as the destination address for a multicast, language that is consistent with Defendants’ construction. (See, e.g., ‘275 Patent at 14: 2-3 (“the multicast content assigned to be multicast to a destination address”); *id.* at 14: 35-37 (same).) At the Markman hearing, the parties debated whether content was delivered “to” or “through” a destination address. While Plaintiff’s proposed construction contemplates that data are delivered “to” a destination address, his post-Markman brief acknowledges that “through” is the correct

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<sup>6</sup> This term appears in claims 1 and 5 of the ‘275 Patent.



word. The only remaining dispute as to the construction of this claim term is whether it is appropriate to say that content is delivered to “requesting” end-users. As explained above, the Court finds that “request” is the most appropriate word to describe the action of an end-user in joining a multicast group. Accordingly, the Court adopts Defendants’ construction of the claim term.

E. “Content is replicated amongst the regional servers”<sup>7</sup>

Plaintiff’s proposed construction of this claim term is “content is copied to the regional servers.” Defendants propose either “content is copied from one or more regional servers to other regional server(s)” or “content is copied among the regional servers.” Plaintiff contends that the construction should encompass the copying of content from the central server onto the regional servers, while Defendants argue that the construction should be limited to replication at a peer-to-peer level -- that is, only across the regional servers, as distinct from replication from a central server to a regional server.

Plaintiff asserts that the specification does not distinguish between copying from a central server to a regional server and copying between regional servers, pointing to specification language stating that “files may be replicated via replication from the central server 703 and amongst the regional servers 302.” (571 Patent at 8:41-42.) Plaintiff argues that, because the clauses “replication from the central server” and “amongst the regional servers” are connected by an “and” rather than an “or,” the options are not alternatives. Defendants read this language differently, and contend that replication from a central server *to* a regional server is distinct from replication *amongst* regional servers. Defendants also point to Figure 12 of the

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<sup>7</sup> This term appears in claim 10 of the ‘571 Patent.

‘571 Patent as support for their contention that replication amongst the regional servers means replication at a peer-to-peer level. (See ‘571 Patent at Fig. 12; id. at 12:39-43 (after retrieval from the content provider to a regional server, “the content is replicated from the regional server to other regional servers”).) Figure 12 is a diagram of a preferred method of replicating data from a content provider, and so its description of replication may be somewhat narrower than the scope of the claim term. Nonetheless, after reviewing carefully the specification<sup>8</sup> and the extrinsic evidence<sup>9</sup>, the Court adopts Defendants’ proposed construction -- “content is copied from one or more regional servers to other regional server(s),” finding that it best captures the plain and ordinary meaning of the claim term.

F. “Group of [the] end[-] user systems”<sup>10</sup>

Plaintiff’s proposed construction of this claim term is “set of recipients intended to receive specified content.” Defendants’ proposed construction is “end-user systems that requested the content.” The parties’ only dispute with respect to this term is whether the construction should require recipients to have “requested” the content.

Plaintiff argues that “end-user systems receive data addressed to the group by

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<sup>8</sup> The following language from the specification further supports Defendants’ position that “replication amongst the regional servers” is limited to replication at a peer-to-peer level: “The content may be fully or partially replicated amongst the regional servers 302. In full replication, a full copy of the content would be kept at every regional server 302. In partial replication, either the copies replicated are not full (i.e. only a partial fragment of the full copy is replicated), or the copies are not distributed to every regional server.” (‘571 Patent at 12:43-48.)

<sup>9</sup> See, e.g., Defendants’ Markman Presentation at 121 (Webster’s II New College Disctionary (1995) defines “amongst” as, inter alia, “[i]n the group,” “[w]ith one another <arguing among themselves>”).

<sup>10</sup> This term appears in claims 1, 10 and 11 of the ‘571 Patent, and claims 1 and 5 of the ‘275 Patent.

virtue of being members of the group, without any requirement to request such data,” and that Defendants’ proposed construction adds an unsupported limitation to the claim term. (See Plaintiff’s Opening Claim Construction Brief at 28.) Defendants contend, however, that the claim language is consistent with the idea that end-user systems requested content. Notably, the claims refer to end-user systems that are either in a multicast group, or the end-users of the hierarchical caching arrangement. (See, e.g., ‘571 Patent, Claim 1 (“a broadband distribution network coupling each of the caching servers to a plurality of end-user systems in the sub-region, for providing the cached content to the end-user systems responsive to requests from the end-user systems for content on the publicly accessible internetwork of networks, and for providing the regionally-customized multicast content to a group of the end-user systems in the sub-region”); ‘275 Patent, Claim 1 (“each caching server configured to provide a first level of caching of general content for a group of end user systems in a region served by the regional server to which it is coupled, and to provide the customized multicast content formed by the coupled regional server to an end-user system in the region”).) As explained in the preceding discussions of the “caching-level” terms and the “multicast” term, content will not be multicast to an end-user system that did not request to join the multicast group, and a cache will not respond to an end-user system unless that system requests content. Dr. Jeffay has testified credibly that a person of ordinary skill in the art would understand that groups of end-user systems are systems that requested content that is either multicast or cached. (Jeffay Decl. ¶ 122.)

Accordingly, the Court adopts Defendants’ proposed construction of the claim term.

G. “Content”<sup>11</sup>

Plaintiff’s proposed construction of the claim term “content” is “information, such as text, audio and video.” Defendants’ proposed construction of the claim term is “public network-accessible files.”

Plaintiff argues that Defendants’ proposals that all content come from a public network and that content be in the form of “files” are unduly limiting, and unjustified by the specifications. The Court finds, however, that the specifications support the plain meaning that “content” comes from a public network. (See, e.g., ‘571 Patent at 3:54-57 (“in the architecture of the present invention, the distributed public Internet (top portion) 170 is separated from a hierarchical private network (bottom portion) 180 under private control).) Defendants’ construction is also supported by a hand-drawn version of Figure 1 submitted with the original application, where the “remote source” of all content is labeled “public internet.” (See Defendants’ Markman Presentation at 146.) Plaintiff points to the version of Figure 1 included with the ‘571 Patent and argues that there is a direct connection between the remote content source and the private backbone, which bypasses the public internet. (See ‘571 Patent at Fig. 1; id. at 4:59-5:2 (“the private backbone 102 connects via an additional router 130 to a particular LAN 114 in order to give the network more direct access to content on that particular LAN 114 . . . data from that LAN 114 may travel towards an end-user either via the Internet 170 . . . or via the short-cut through the additional router 130 which bypasses the Internet”).) Whether or not the content travels to an end-user via the Internet or via the short-cut however, the source of the content itself is a public network.

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<sup>11</sup> This term appears in claims 1, 10, 11 and 13 of the ‘571 Patent; claims 1 and 5 of the ‘275 Patent; claims 1, 3, 4, 7, 9, 10, 13, 15 and 16 of the ‘856 Patent; and claims 1, 3, 4, 7, 9, 10, 13, 15 and 16 of the ‘749 Patent.

Plaintiff next argues that the claim limitation concerning content on the “publicly accessible internetwork of networks” appears only in the ‘571 Patent, and that the claims in the other three patents do not include this limitation. The other patents, however, include numerous references to the Internet, which is a specific type of “public network.” (See, e.g., ‘275 Patent at 2:49-51 (“The digital network architecture couples a high-speed backbone to multiple network access points (NAPs) of the Internet”); ‘856 Patent at 2:36-38 (“The digital network architecture couples a high-speed backbone to multiple network access points (NAPs) of the Internet”); ‘749 Patent at 2:36-38 (same); id. at 3:62-65 (“In the architecture of the present invention, the distributed public Internet (top portion) 170 is separated from a hierarchical private network (bottom portion) 180 under private control”).)

Finally, Plaintiff contends that limiting content to “files” is too narrow a construction, and points to specification language reciting that “[t]he multimedia content is served in the form of html, vrm1, image, audio, and video files, or *may be in other forms*,” (‘571 Patent at 8:39-40 (emphasis added)), and that “the regional web server 524 may also multicast select multimedia content, such as audio or video from live events.” (‘571 Patent 8:46-47.) Defendants counter, however, that the specifications consistently use the word “content” to mean only files. (See, e.g., ‘571 Patent at 8:39-42 (emphasis added) (“The multimedia content is served in the form of hrml, vrm1, image, audio, and video files, or may be in other forms. *These files* may be updated via replication from the central server 703 and amongst the regional servers 302”); id. at 9:20-26 (“[i]f the requested file is contained in the cache storage 616 then the proxy server 621 sends the file from the cache storage 616 to the requesting end-user system 124”).) Finally, Dr. Jeffay has testified credibly that “live events” are transmitted in the form of files. (See Jeffay Dep. Tr. 123:18-124:14, Exhibit J to the Declaration of Jennifer C. Tempesta, ECF

No. 131; see also Jeffay Decl. ¶¶ 125-135.) Accordingly, the Court adopts Defendants’ proposed construction of the claim term.

#### CONCLUSION

For the foregoing reasons, the Court hereby construes the seven disputed claim terms as follows:

“Provid[ing/e] a first level of caching [of the/for/of/of general] content” means “Providing a storage location for content associated with a sub-region or local area and handling requests for content not stored in that location.”

“Provid[ing/e] a second level of caching [of the/for/for the general] content” means “Providing a storage location for content associated with the regional server and handling requests for content not stored in that location.”

“Multicast[ing]” means “The delivery of content from a single source to multiple destinations that requested to join the multicast group, where only a single copy of the particular content passes over any network link.”

“Destination address” means “Address identifying network location through which multicast content is delivered to requesting end-users.”

“Content is replicated amongst the regional servers” means “Content is copied from one or more regional servers to other regional server(s).”

“Group of [the] end[-]user systems” means “End-user systems that requested the content.”

“Content” means “Public network-accessible files.”

This matter remains referred to Judge Pitman for general pretrial management. A Final Pretrial Conference is scheduled for December 20, 2013, at 2:00 p.m.

SO ORDERED.

Dated: New York, New York  
August 12, 2013

/S  
LAURA TAYLOR SWAIN  
United States District Judge